

FIG. 1

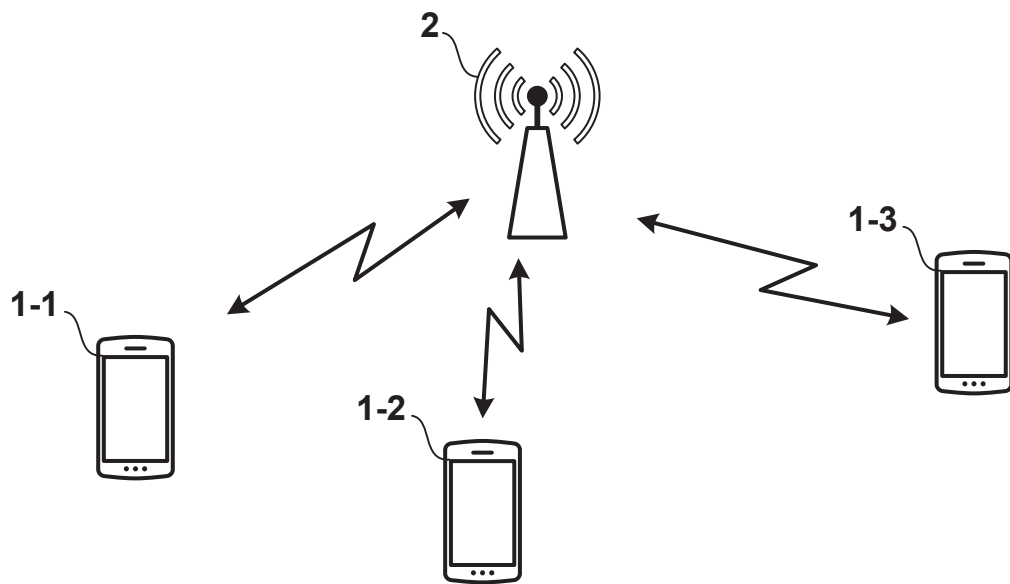


FIG. 2

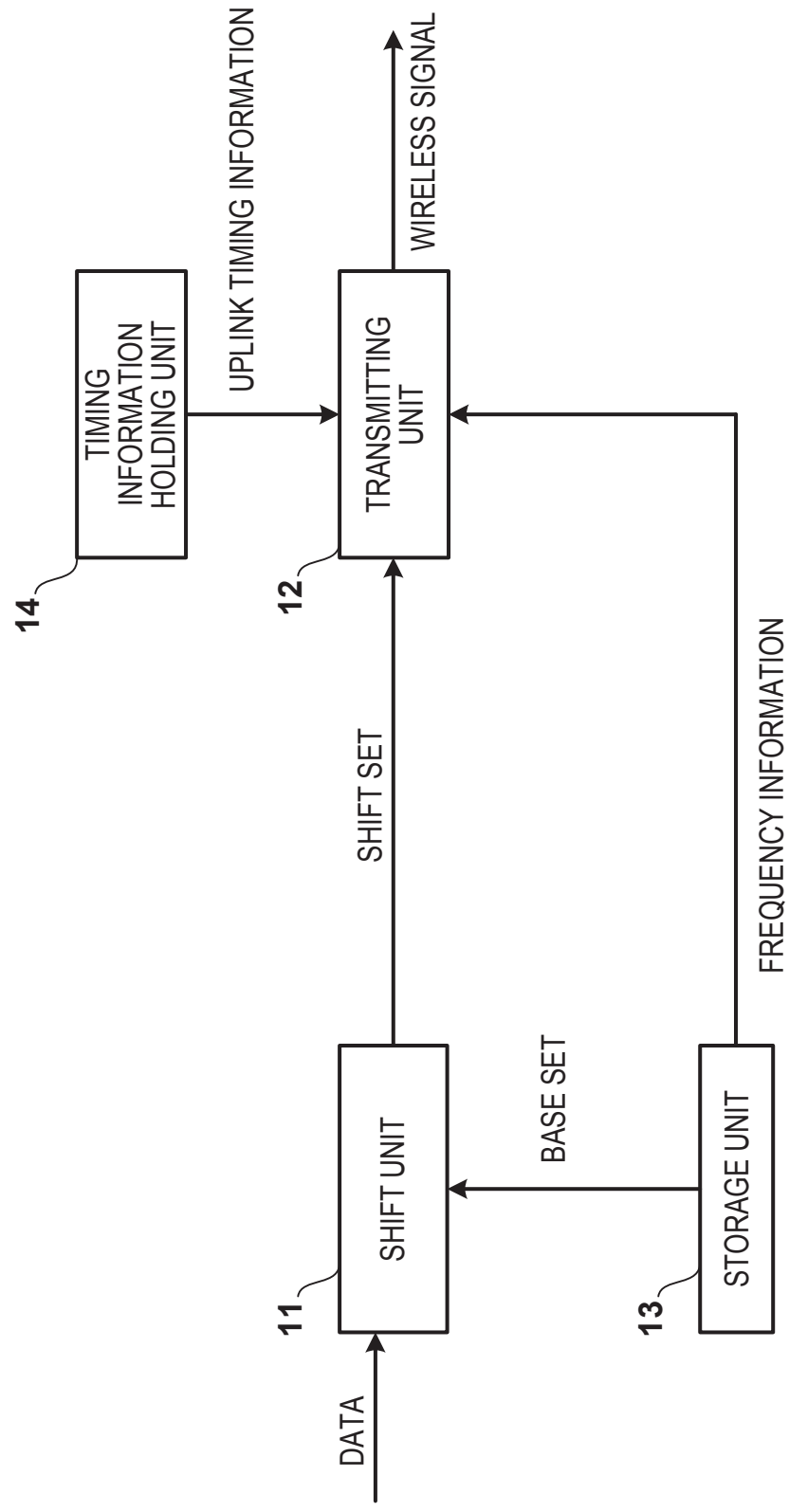


FIG. 3

BASE SEQUENCE	FREQUENCY	VALUE			
		FIRST	SECOND	THIRD	FOURTH
FIRST BASE SEQUENCE	f1	1	1	1	1
SECOND BASE SEQUENCE	f2	1	j	-1	-j
THIRD BASE SEQUENCE	f3	1	-1	1	-1
FOURTH BASE SEQUENCE	f4	1	-j	-1	j

FIG. 4

SHIFT SEQUENCE	FREQUENCY	VALUE			
		FIRST	SECOND	THIRD	FOURTH
FIRST SHIFT SEQUENCE	f1	1	1	1	1
SECOND SHIFT SEQUENCE	f2	-1	-j	1	j
THIRD SHIFT SEQUENCE	f3	1	-1	1	-1
FOURTH SHIFT SEQUENCE	f4	-1	j	1	-j

FIG. 5

FREQUENCY	t																											
	1	2	3	4	5	6-8	9	10	11	12	13	14	15	16	17-28				29	30	31	32						
f1							1	1	1	1																		
f2		-1	-j	1	j																							
f3																					1	-1	1	-1				
f4																	-1	j	1	-j								

FIG. 6

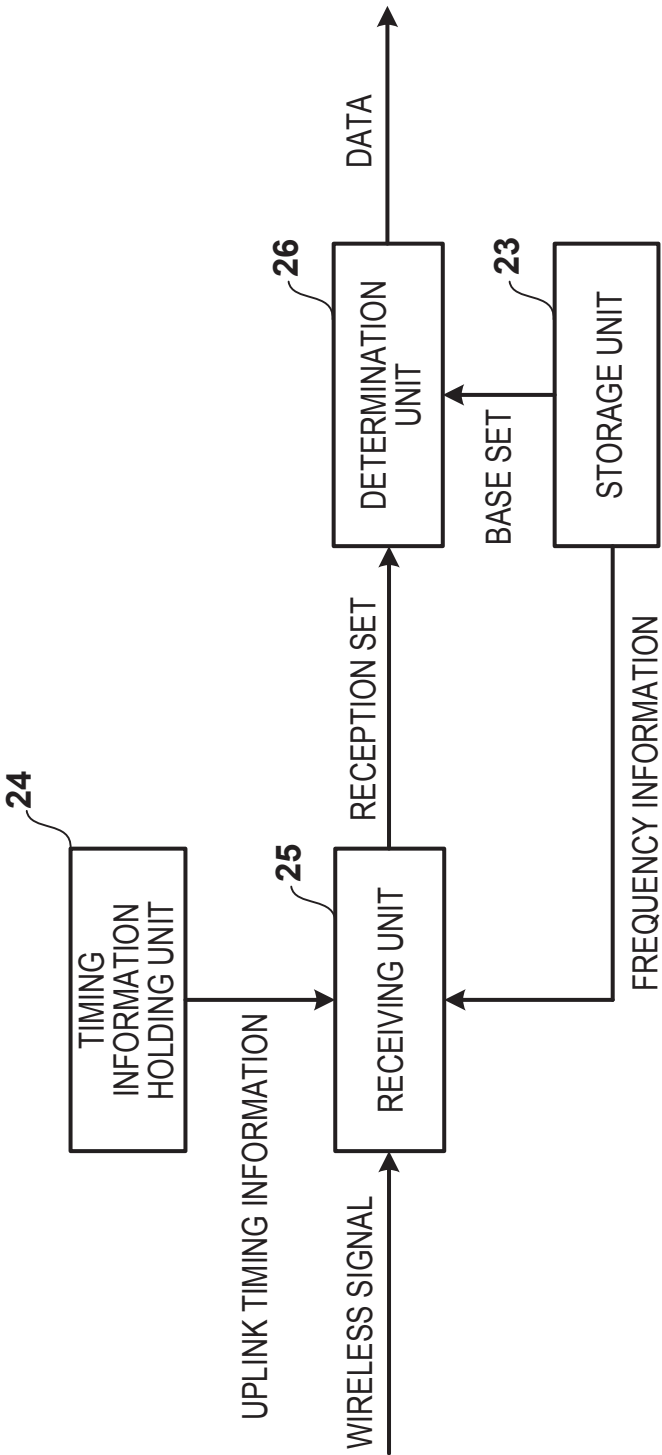


FIG. 7

SEQUENCE	CORRELATION VALUE			
	$\tau=0$	$\tau=1$	$\tau=2$	$\tau=3$
FIRST	4	4	4	4
SECOND	-4	4j	4	-4j
THIRD	4	-4	4	-4
FOURTH	-4	-4j	4	4j
TOTAL	0	0	16	0

FIG. 8

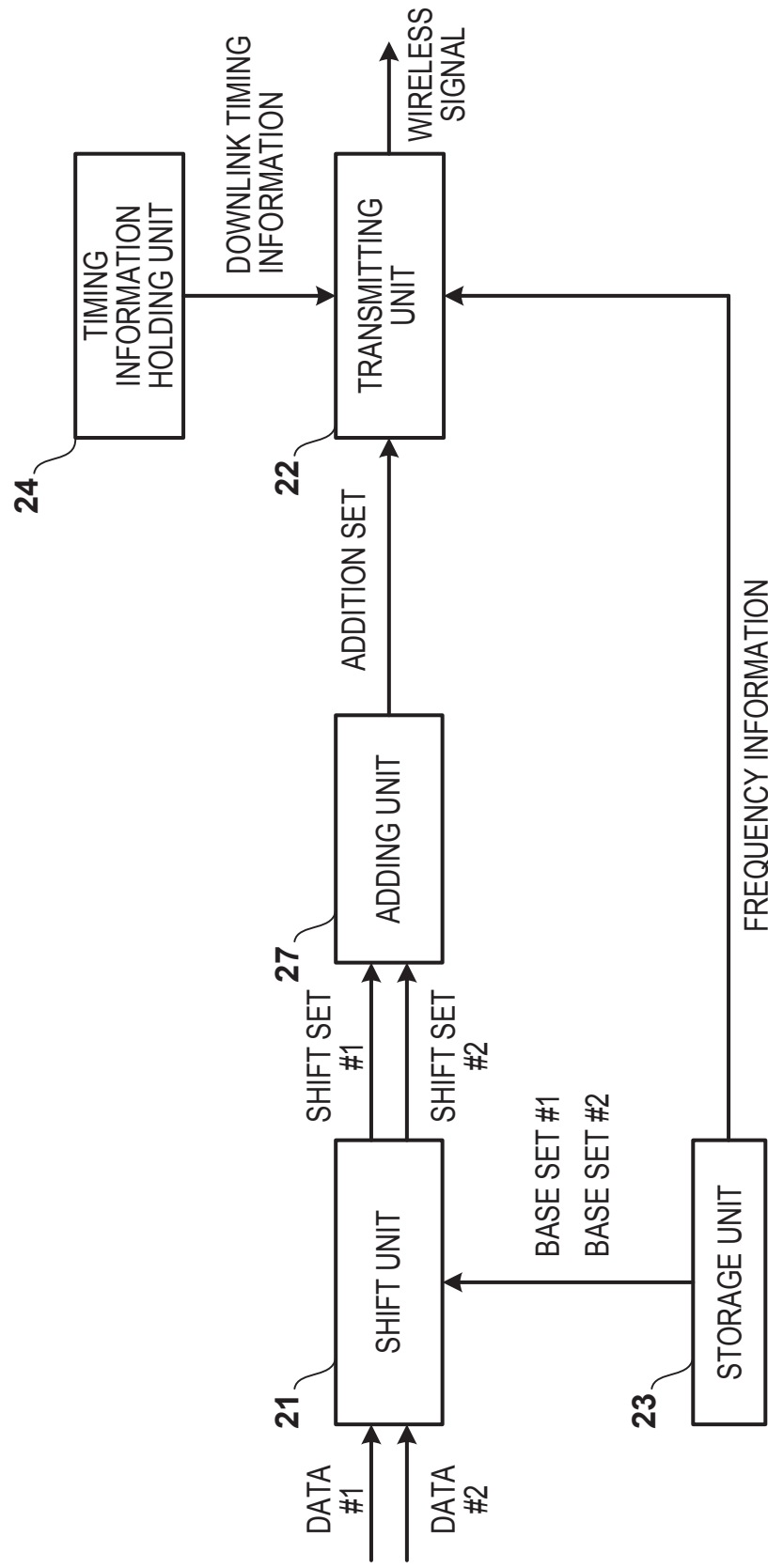


FIG. 9

SEQUENCE	FREQUENCY	VALUE			
		FIRST	SECOND	THIRD	FOURTH
FIRST BASE SEQUENCE	f1	1	j	-1	-j
SECOND BASE SEQUENCE	f2	1	-1	1	-1
THIRD BASE SEQUENCE	f3	1	-j	-1	j
FOURTH BASE SEQUENCE	f4	1	1	1	1

FIG. 10

SEQUENCE	FREQUENCY	VALUE			
		FIRST	SECOND	THIRD	FOURTH
FIRST ADDITION SEQUENCE	f1	2	1+j	0	1-j
SECOND ADDITION SEQUENCE	f2	0	-1-j	2	-1+j
THIRD ADDITION SEQUENCE	f3	2	-1-j	0	-1+j
FOURTH ADDITION SEQUENCE	f4	0	1+j	2	1-j

FIG. 11

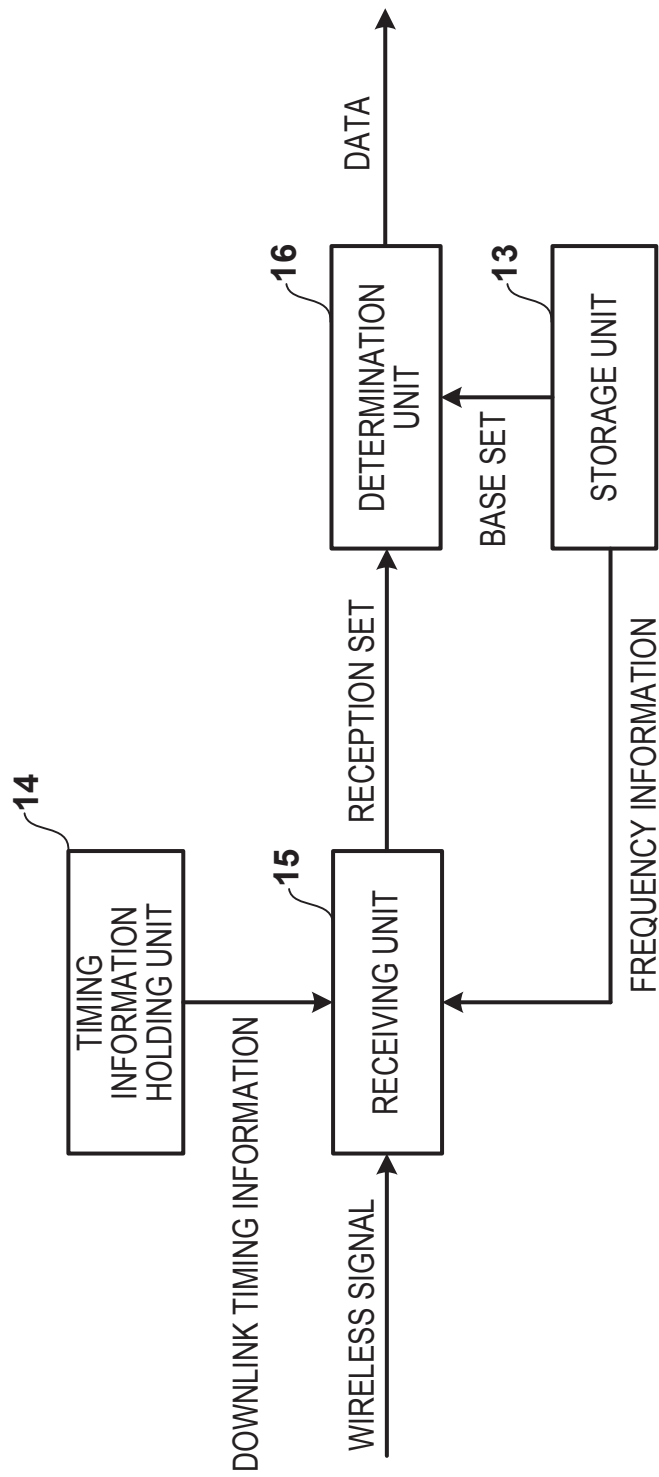


FIG. 12

SEQUENCE	CORRELATION VALUE			
	$\tau=0$	$\tau=1$	$\tau=2$	$\tau=3$
FIRST	4	4	4	4
SECOND	-4	4j	4	-4j
THIRD	4	-4	4	-4
FOURTH	-4	-4j	4	4j
TOTAL	0	0	16	0

FIG. 13

SEQUENCE	CORRELATION VALUE			
	$\tau=0$	$\tau=1$	$\tau=2$	$\tau=3$
FIRST	4	-4j	-4	4j
SECOND	4	-4	4	-4
THIRD	4	4j	-4	-4j
FOURTH	4	4	4	4
TOTAL	16	0	0	0

FIG. 14

SEQUENCE	FREQUENCY	VALUE			
		FIRST	SECOND	THIRD	FOURTH
FIRST BASE SEQUENCE	f_2	1	j	-1	$-j$
SECOND BASE SEQUENCE	f_3	1	-1	1	-1
THIRD BASE SEQUENCE	f_4	1	$-j$	-1	j
FOURTH BASE SEQUENCE	f_1	1	1	1	1

FIG. 15

SEQUENCE	CORRELATION VALUE			
	$\tau=0$	$\tau=1$	$\tau=2$	$\tau=3$
FIRST	-4	-4	-4	-4
SECOND	4	$-4j$	-4	$4j$
THIRD	-4	4	-4	4
FOURTH	4	$4j$	-4	$-4j$
TOTAL	0	0	-16	0

FIG. 16

TRANSMISSION DATA	SHIFT AMOUNT				
	$\tau=0$	$\tau=1$	$\tau=2$	$\tau=3$	$\tau=4$
000	0	0	1	1	1
001	0	1	0	1	1
010	0	1	1	0	1
011	0	1	1	1	0
100	1	0	0	1	1
101	1	0	1	0	1
110	1	0	1	1	0
111	1	1	0	0	1
—	1	1	0	1	0
—	1	1	1	0	0